TABLE VIII

FIRST-ADJACENT CHANNEL STATIONS

KCSN 34° 21' 13" - 118° 24' 57"
Northridge, CA
California State University, Northridge
FCC File No. BLED-870911KB
Channel 203A, 88.5 MHz
ERP = 0.052 kW (-12.84 dBk)
Antenna Heights: 1,256 Meters AMSL
646 Meters HAAT
42 Meters AGL

Distance to Oak Creek Pass site = 79.2 km @ 2.1°

RADIAL (°)	ANTENNA HEIGHT ABOVE AVERAGE TERRAIN (Meters)	DISTANCE TO CONTOURS F(50,50) 60 DBU (km)	F(50,10) 54 DBU (km)
0	682	23.5	36.3
45	424	18.1	27.3
90	131	10.0	14.0
135	698	23.7	36.8
180	935	27.2	42.6
225	886	26.6	41.5
270	640	22.8	35.0
315	772	24.9	38.8
AVERAGE	646	22.9	
2.1	670	23.3	36.0

PROPOSED 204B 60 dBu =	34.2 km	PROPOSED 204B 54 dBu =	51.3 km
EXISTING KCSN 54 dBu =	36.0 km	EXISTING KCSN 60 dBu =	23.3 km
	70.2 km		74.6 km
SEPARATION DISTANCE:	79.2 km		79.2 km
SAFETY-ZONE:	9.0 km		4.6 km

TABLE IX

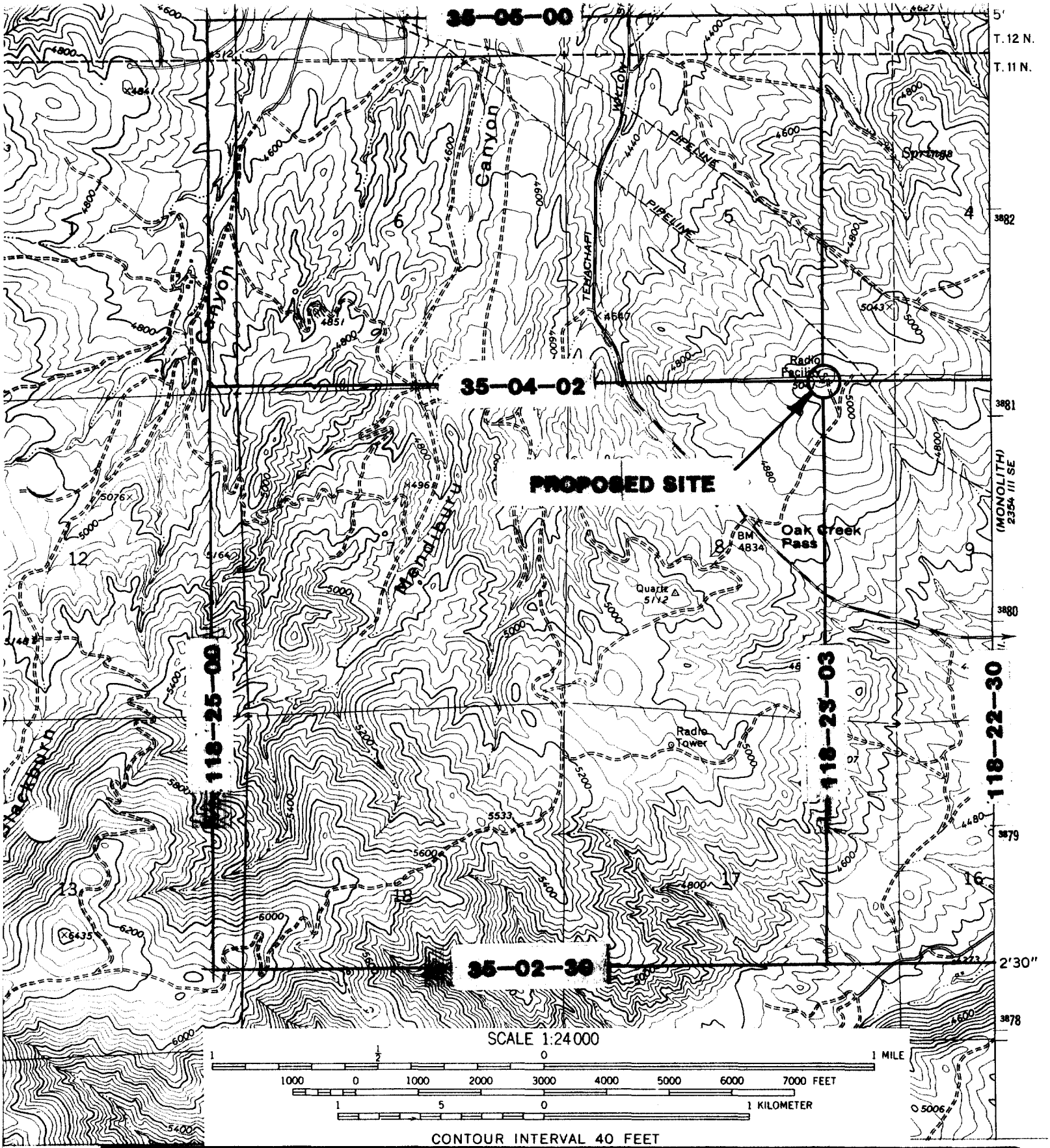
SECOND-ADJACENT CHANNEL STATIONS

KPRX 35° 29' 10" - 118° 53' 20"
Bakersfield, CA
White Ash Broadcasting, Inc.
FCC File No. BLED-870219KB
Channel 206B1, 89.1 MHz
ERP = 11.5 kW (10.61 dBk)
Antenna Heights: 518 Meters AMSL
152 Meters HAAT
37 Meters AGL

Distance to Oak Creek Pass site = 65.33 km @ 135.3°

RADIAL (°)	ANTENNA HEIGHT ABOVE AVERAGE TERRAIN (Meters)	DISTANCE TO CONTOURS F(50,50) 60 DBU (km)	DISTANCE TO CONTOURS F(50,10) 80 DBU (km)
0	115	35.2	11.4
45	-148	18.8	5.8
90	-120	18.8	5.8
135	227	46.3	16.7
180	318	52.6	20.1
225	357	55.1	21.3
270	225	46.1	16.6
315	243	47.4	17.4
AVERAGE	152	39.6	
135.3	228	46.3	16.7

PROPOSED 204B 60 dBu =	42.3 km	PROPOSED 204B 80 dBu =	14.3 km
EXISTING KPRX 80 dBu =	16.7 km	EXISTING KPRX 60 dBu =	46.3 km
	59.0 km		60.6 km
SEPARATION DISTANCE:	65.3 km		65.3 km
SAFETY-ZONE:	6.3 km		4.7 km



USGS TOPOGRAPHIC 7½-MINUTE QUADRANGLE TEHACHAPI, SOUTH, CALIFORNIA	PROPOSED TRANSMITTER SITE
JOHN J. DAVIS CONSULTING ENGINEER SIERRA MADRE, CA 91025	SANTA MONICA COLLEGE CHANNEL 204B MOJAVE, CALIFORNIA
	FIGURE 1A

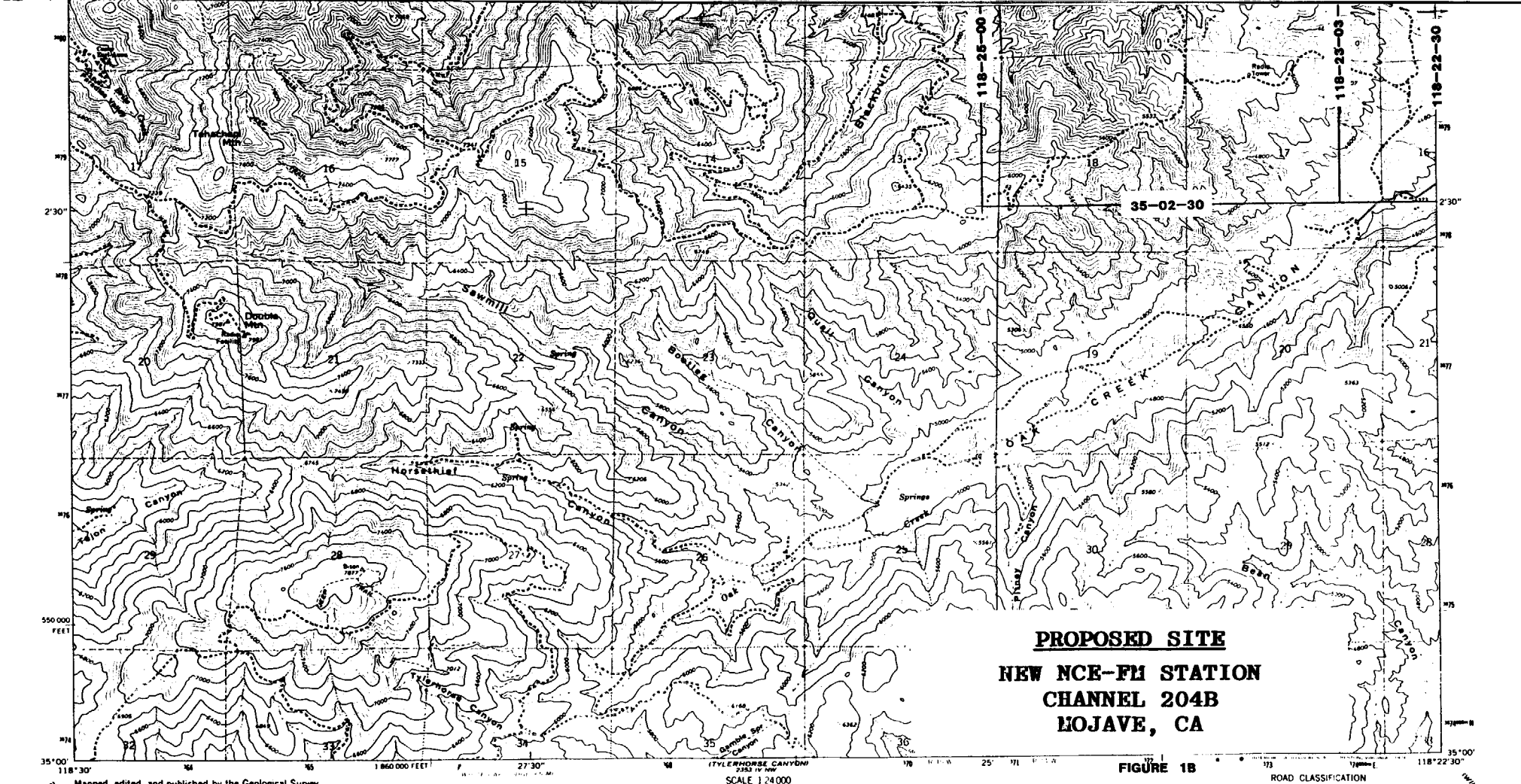


FIGURE 1B

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1963. Field checked 1966

Polyconic projection. 1927 North American datum
10,000-foot grid based on California coordinate system, zone 5
1000-meter Universal Transverse Mercator grid ticks, zone 11, shown in blue

Fine red dashed lines indicate selected fence lines

Revisions shown in purple compiled from aerial photographs taken 1973. This information not field checked

UTM GRID AND 1973 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SCALE 1:24000

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20 FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

ROAD CLASSIFICATION

Primary highway, all weather, hard surface — Light-duty road, all weather, improved surface

Secondary highway, all weather, hard surface — Unimproved road, fair or dry weather

State Route

TEHACHAPI SOUTH, CALIF.

N3500—W11822.5/7.5

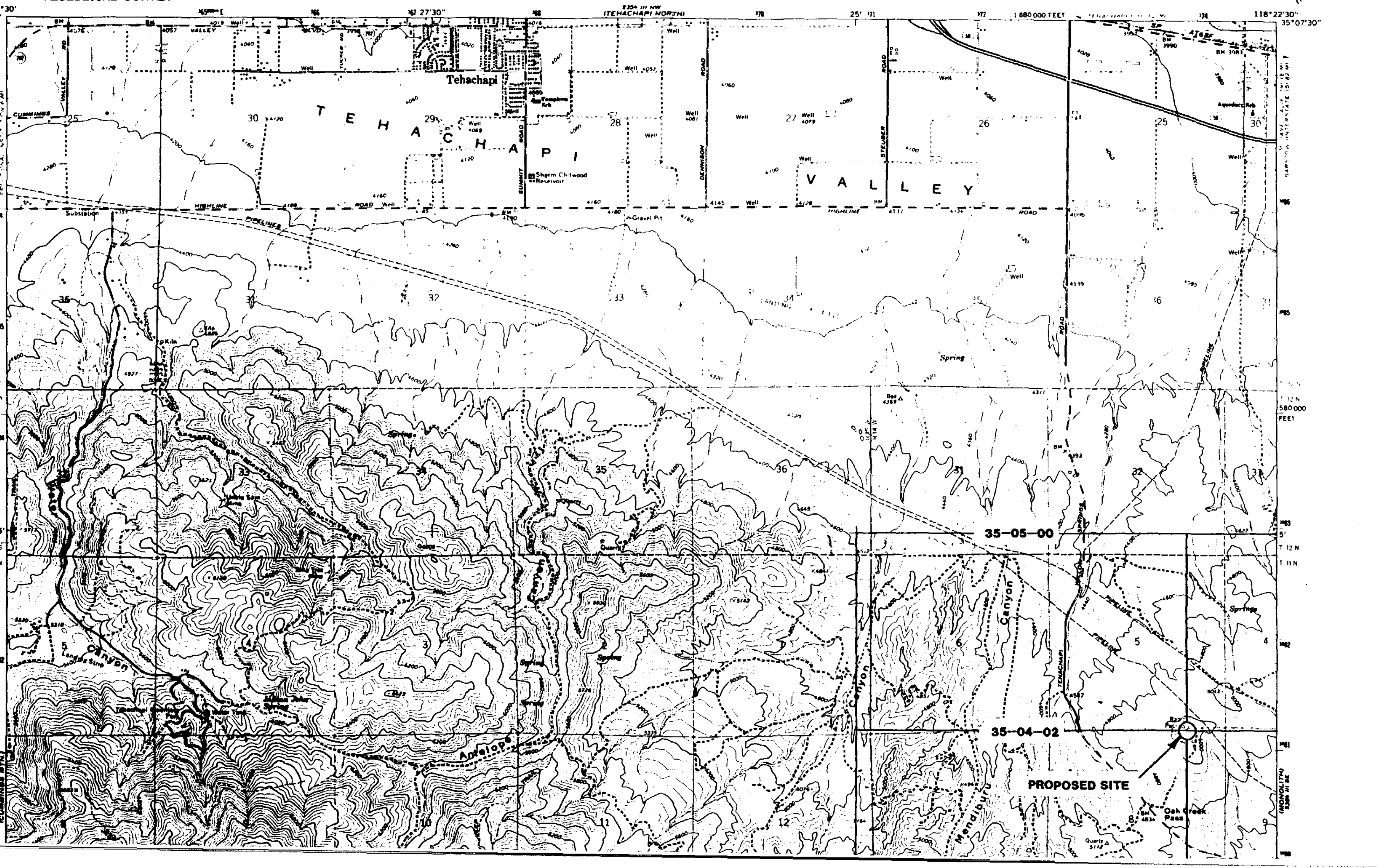
1966

PHOTOREVISED 1973
AMS 2354 III SW - SERIES V895

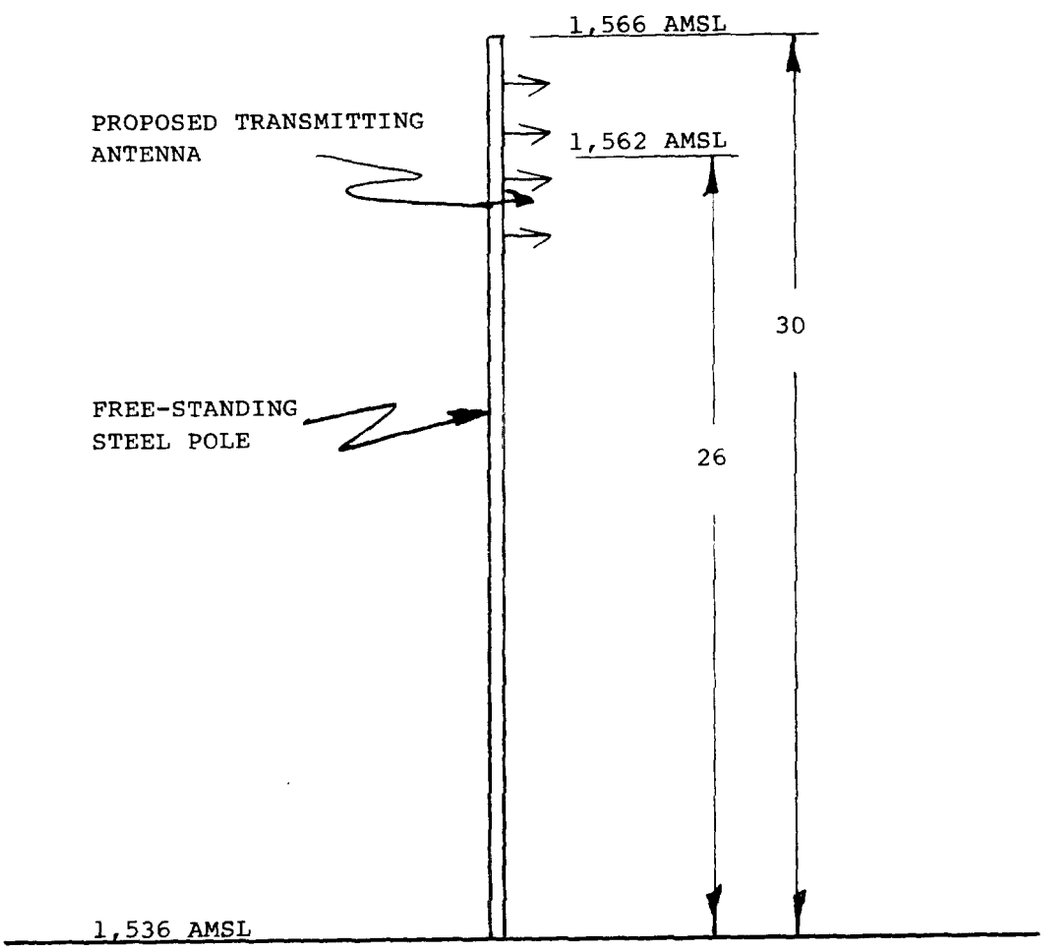
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

TEHACHAPI SOUTH QUADRANGLE
CALIFORNIA-KERN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



204B:910116C



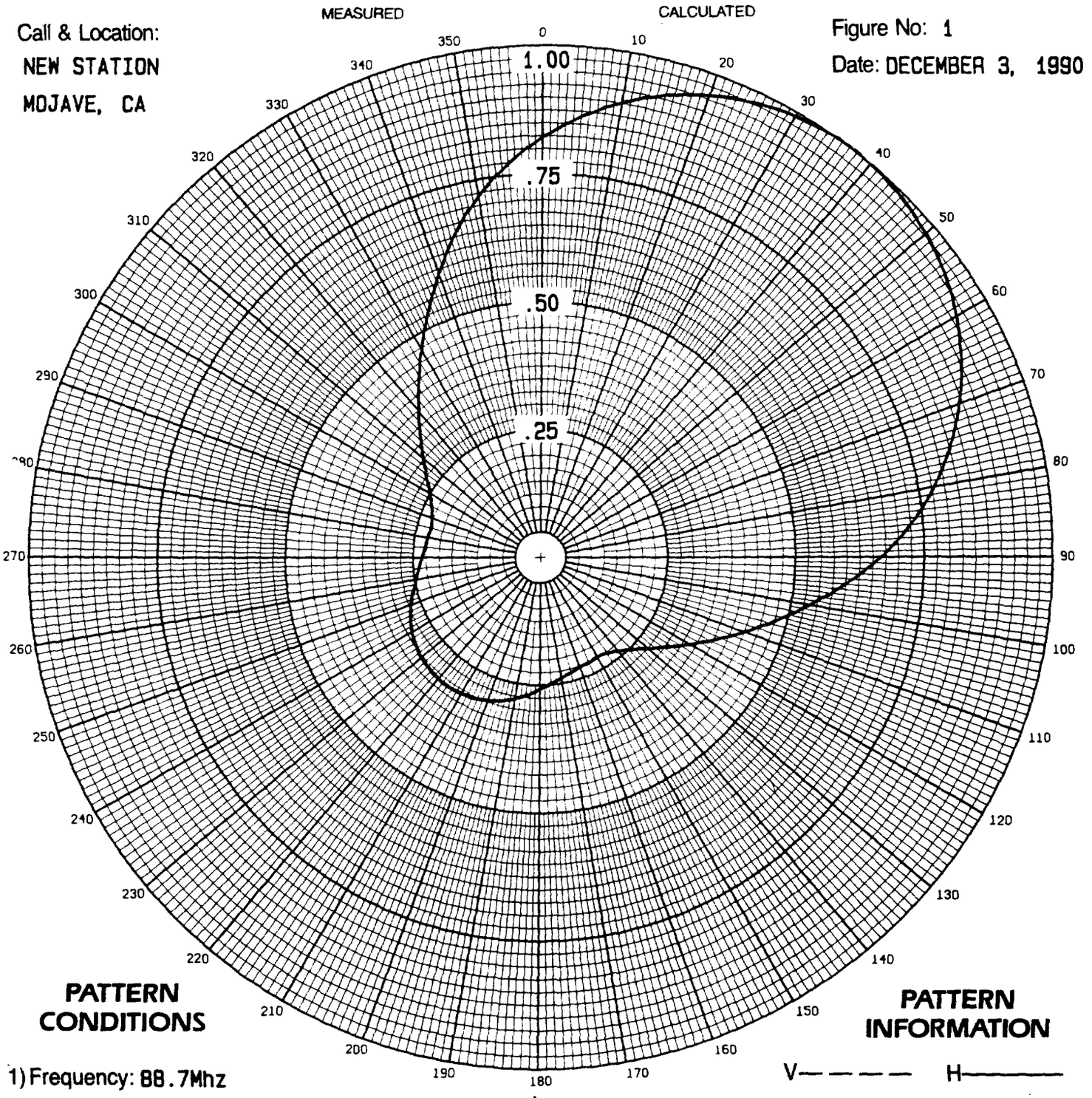
NOTES: 1. ALL HEIGHTS ARE IN METERS
2. NOT DRAWN TO SCALE

OAK CREEK PASS SITE 35° 04' 02" - 118° 23' 03"	PROPOSED ANTENNA ELEVATION
SANTA MONICA COLLEGE CHANNEL 204B MOJAVE, CALIFORNIA	FIGURE 2

HORIZONTAL PLANE RELATIVE FIELD PATTERN

Call & Location:
NEW STATION
MOJAVE, CA

Figure No: 1
Date: DECEMBER 3, 1990



PATTERN CONDITIONS

1) Frequency: 88.7Mhz
2) Antenna Type: LP-4E-DA-SP
3) Antenna Orientation: North 37.5 Deg. East
4) Antenna Mounting: STANDARD
5) Tower Type: 8 5/8" o.d. pole
6) Comments: CALCULATED DATA

PATTERN INFORMATION

V— — — — H———

VERTICAL	HORIZONTAL
Rms: .5568	Rms: .5568
Maximum: 1 N38°E	Maximum: 1 N38°E
Minimum: .223 N150°E	Minimum: .223 N150°E

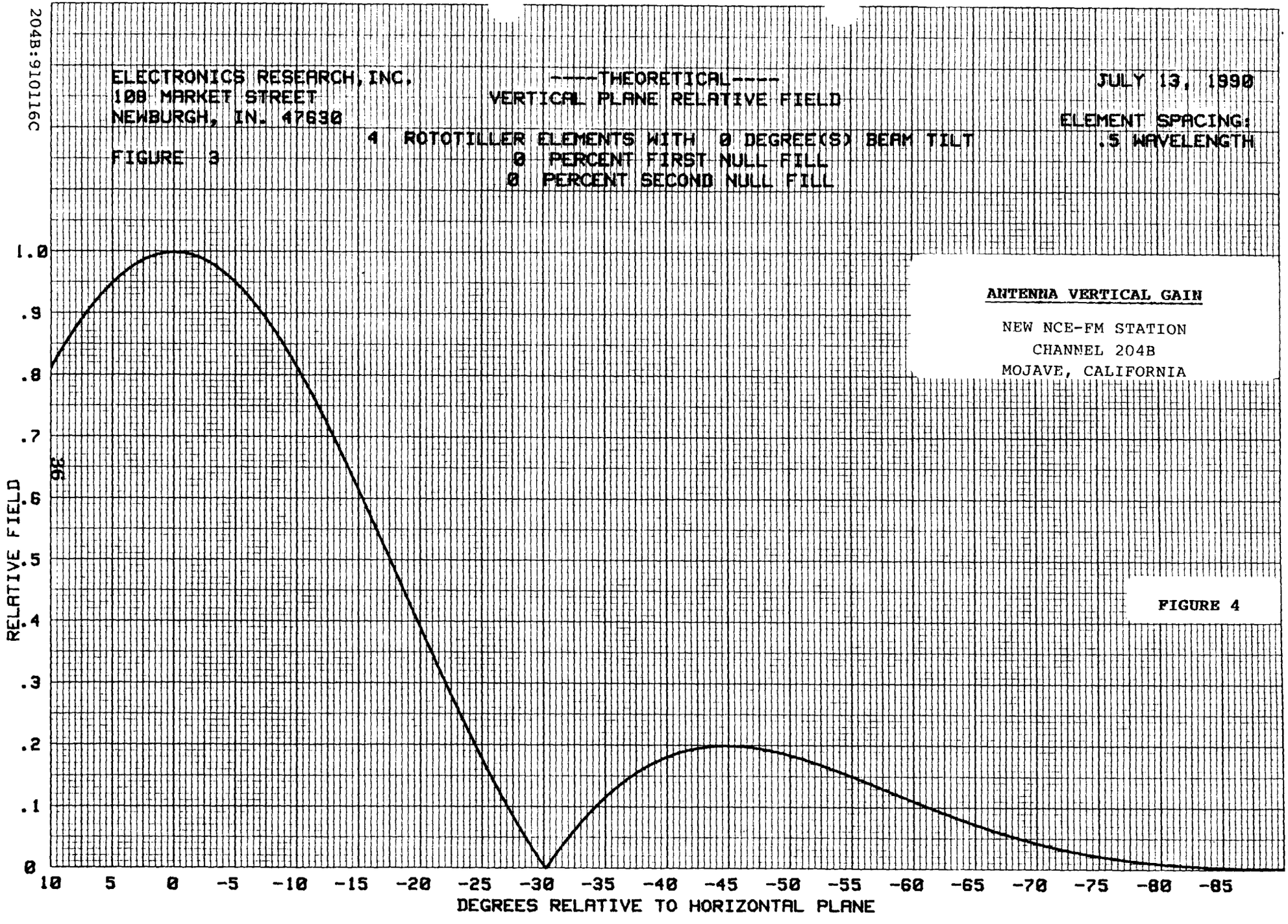
AZIMUTH POLAR PLOT

204B:910116C

NEW NCE-FM STATION
SANTA MONICA COLLEGE

FIGURE 3

ERI Electronics Research Inc.
108 Market St. • Newburgh, In. 47630 • Phone (812) 853-3318 • FAX (812) 853-5706


204B:910116C
ELECTRONICS RESEARCH, INC.
108 MARKET STREET
NEWBURGH, IN. 47630
FIGURE 3
----THEORETICAL----
VERTICAL PLANE RELATIVE FIELD
4 ROTOTILLER ELEMENTS WITH 0 DEGREE(S) BEAM TILT
0 PERCENT FIRST NULL FILL
0 PERCENT SECOND NULL FILL
JULY 13, 1990
ELEMENT SPACING:
.5 WAVELENGTH
ANTENNA VERTICAL GAIN
NEW NCE-FM STATION
CHANNEL 204B
MOJAVE, CALIFORNIA
FIGURE 4
RELATIVE FIELD
1.0
.9
.8
.7
.6
.5
.4
.3
.2
.1
0
10 5 0 -5 -10 -15 -20 -25 -30 -35 -40 -45 -50 -55 -60 -65 -70 -75 -80 -85
DEGREES RELATIVE TO HORIZONTAL PLANE

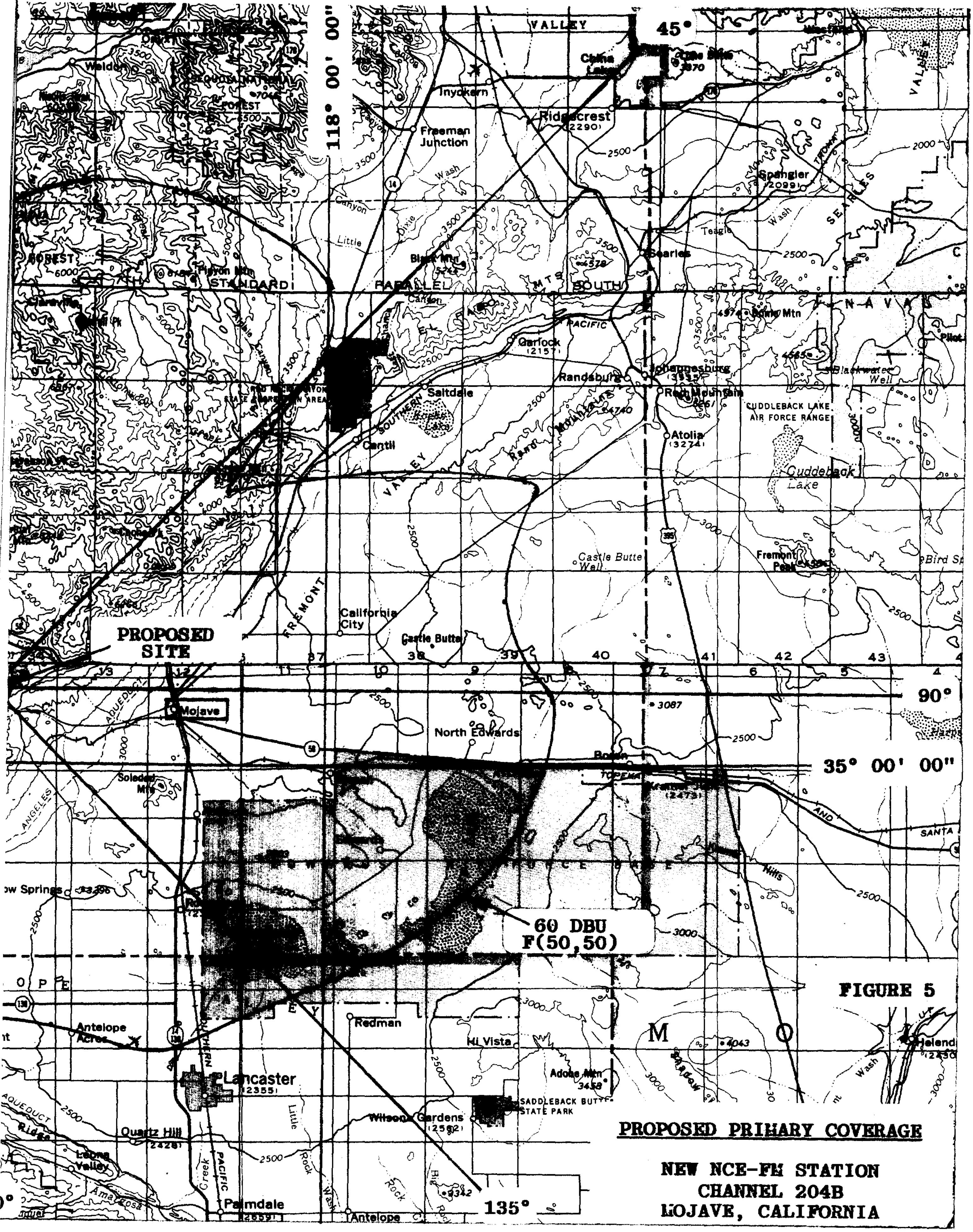
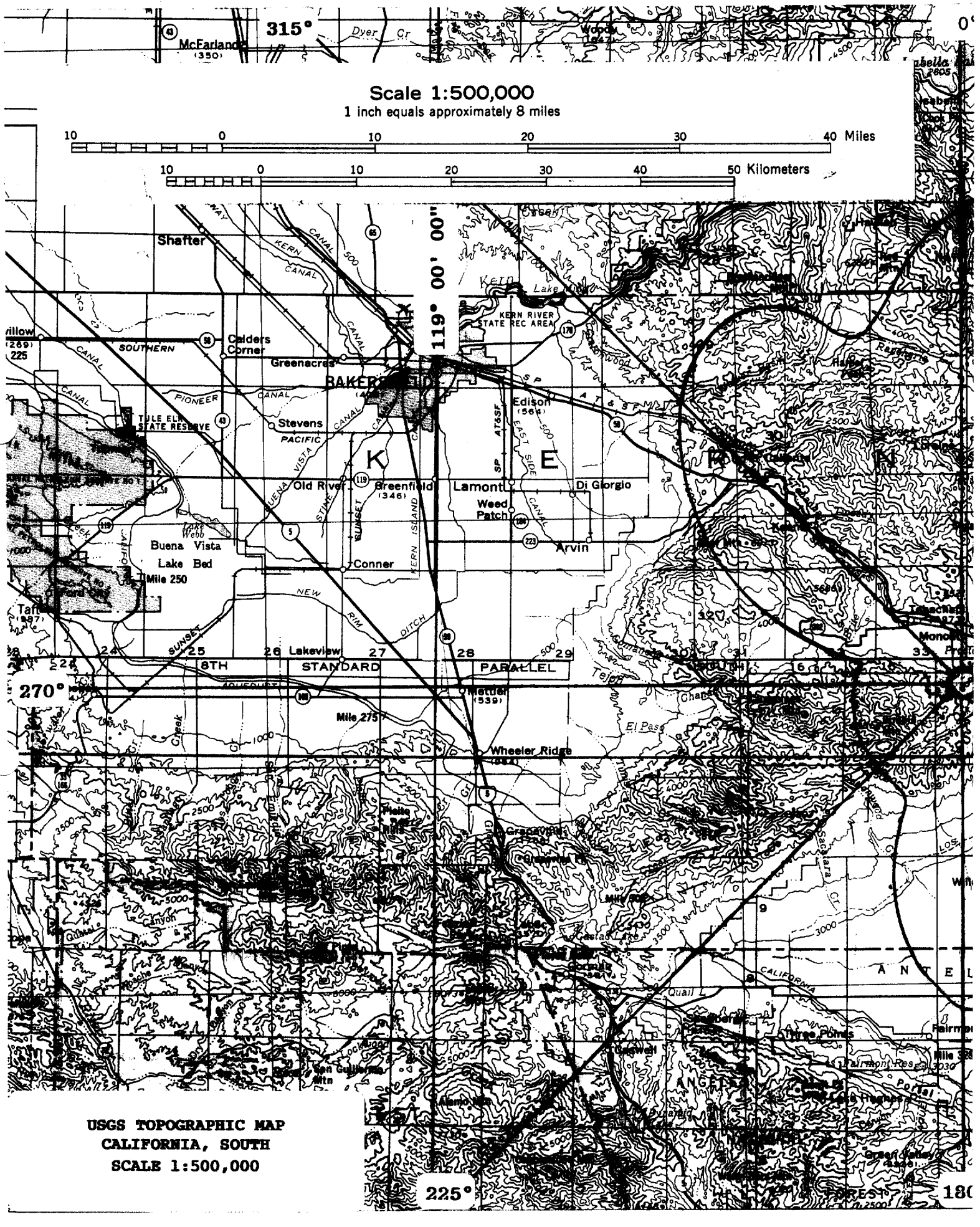


FIGURE 5

PROPOSED PRIMARY COVERAGE

NEW NCE-FM STATION
CHANNEL 204B
MOJAVE, CALIFORNIA



USGS TOPOGRAPHIC MAP
CALIFORNIA, SOUTH
SCALE 1:500,000

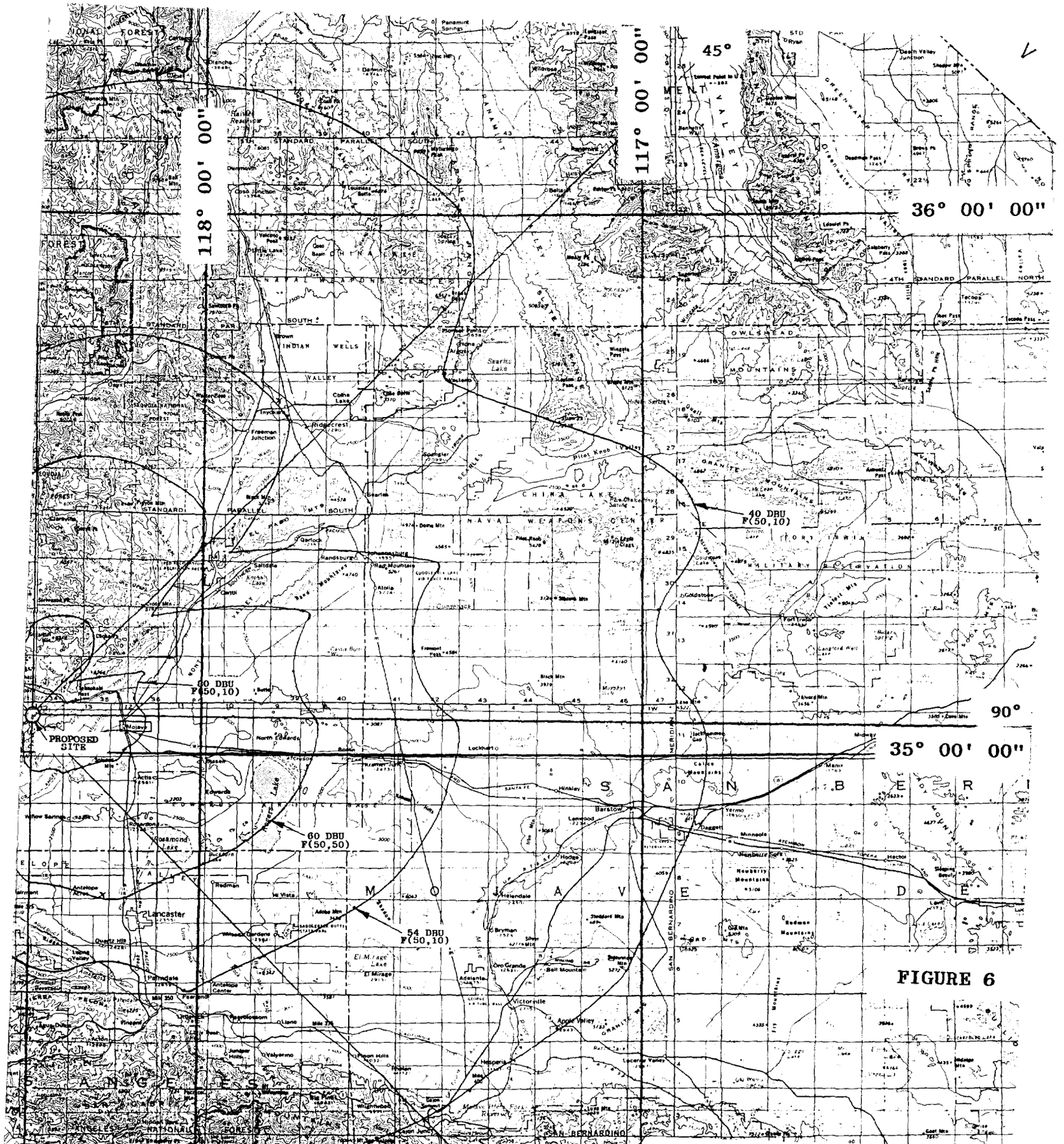
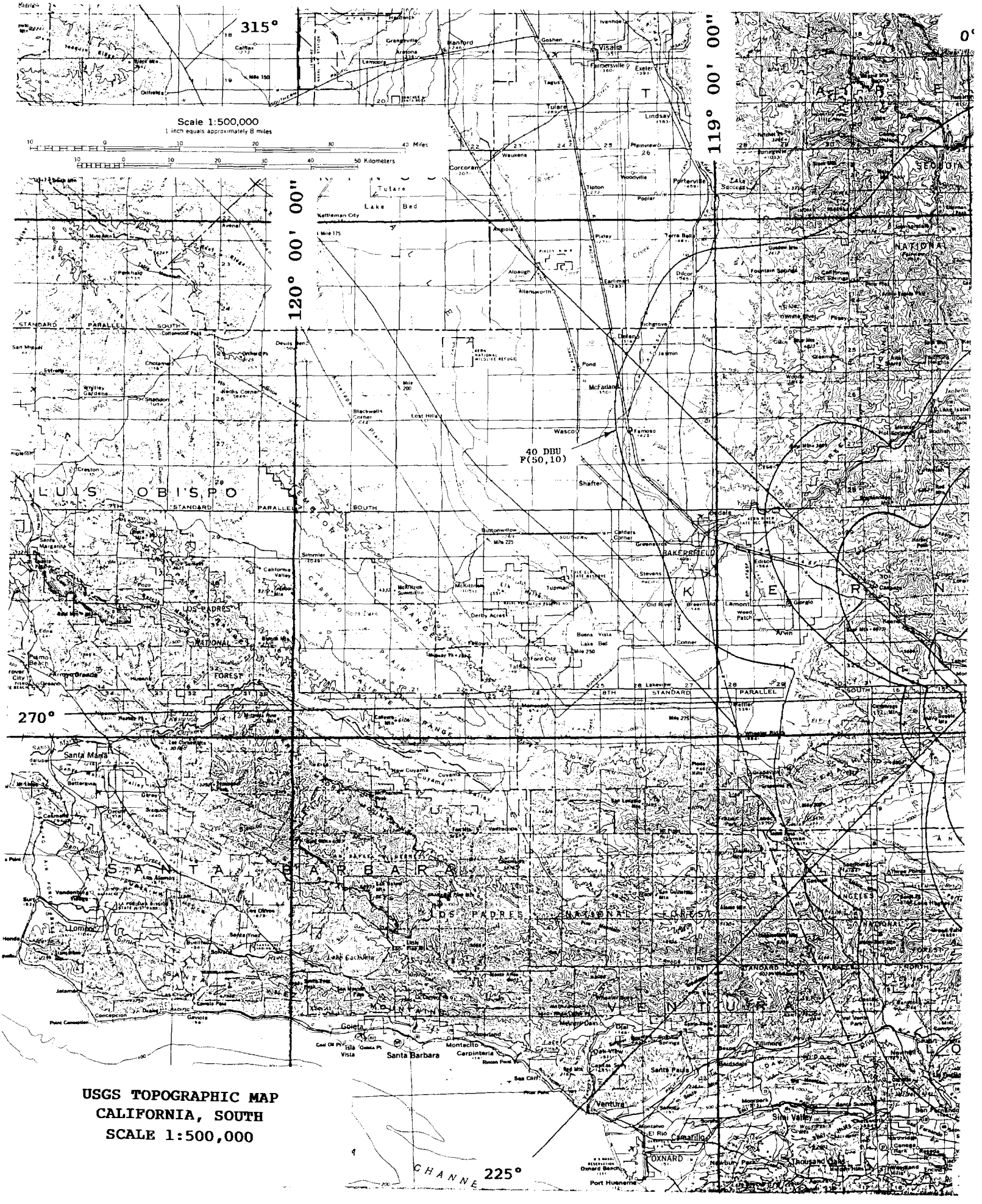


FIGURE 6

PRILARY/INTERFERENCE CONTOURS

NEW NCE-FM STATION
CHANNEL 204
MOJAVE, CALIFORNIA



USGS TOPOGRAPHIC MAP
CALIFORNIA, SOUTH
SCALE 1:500,000

204B:910116C

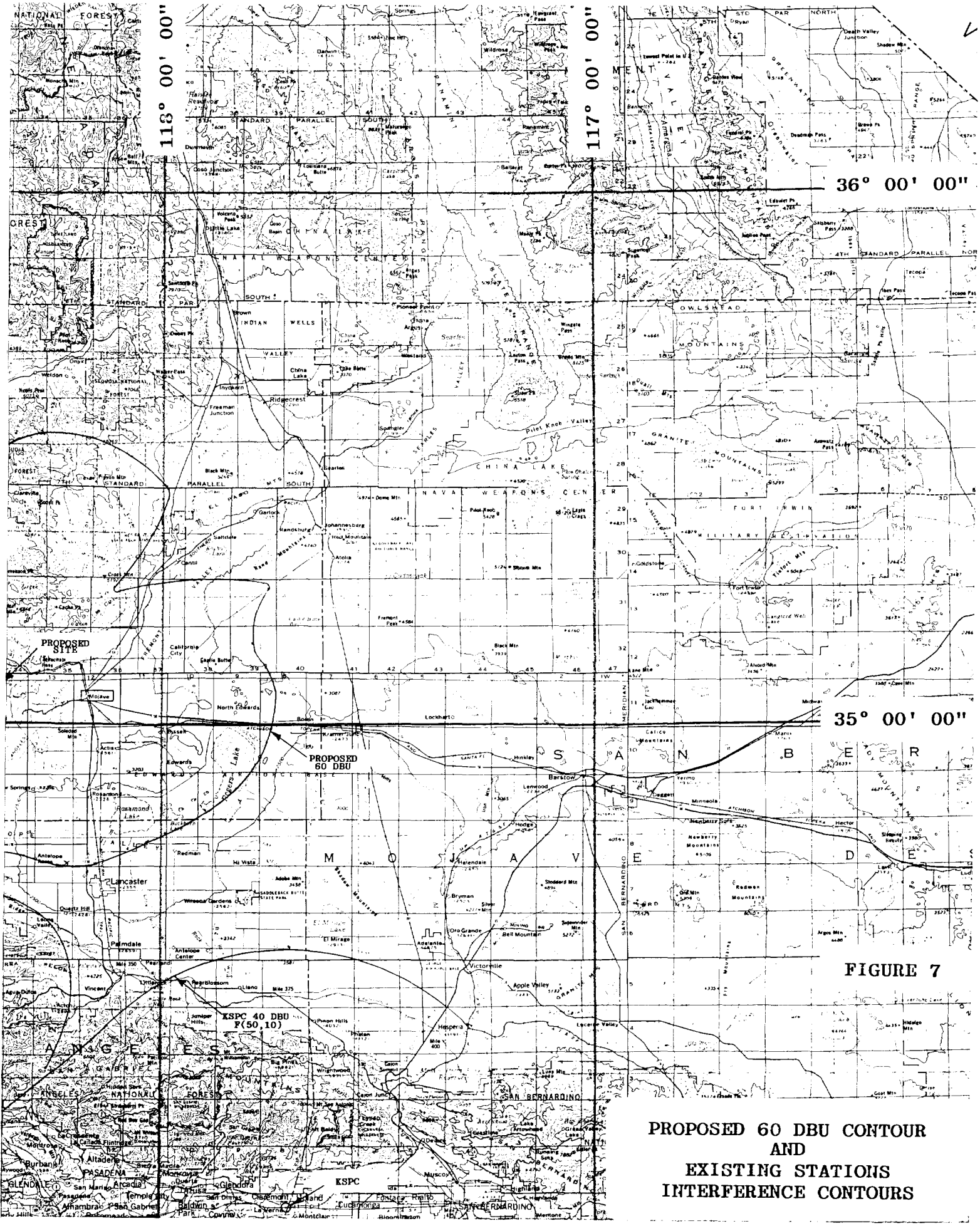
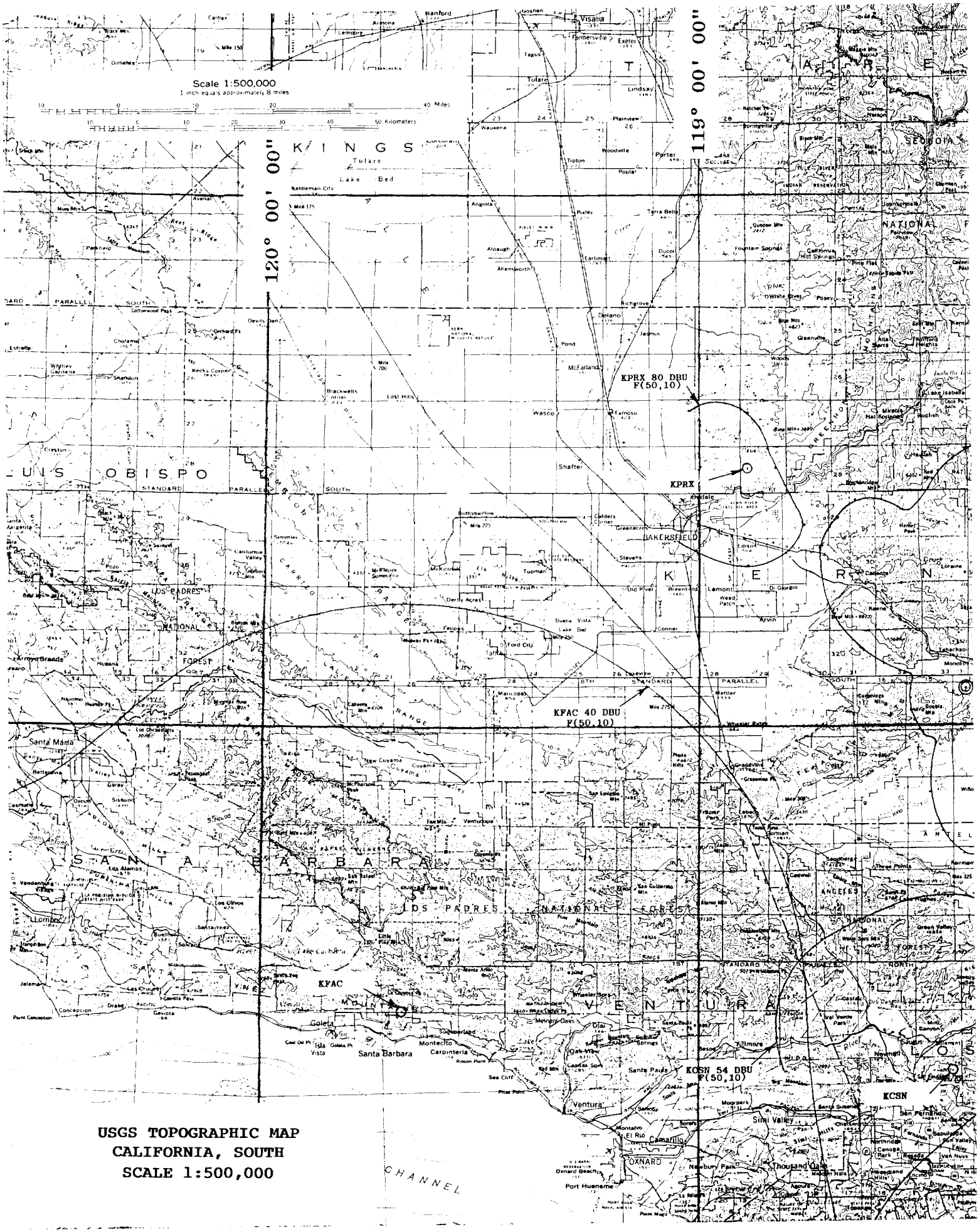


FIGURE 7

PROPOSED 60 DBU CONTOUR
AND
EXISTING STATIONS
INTERFERENCE CONTOURS



USGS TOPOGRAPHIC MAP
CALIFORNIA, SOUTH
SCALE 1:500,000

204B:910116C

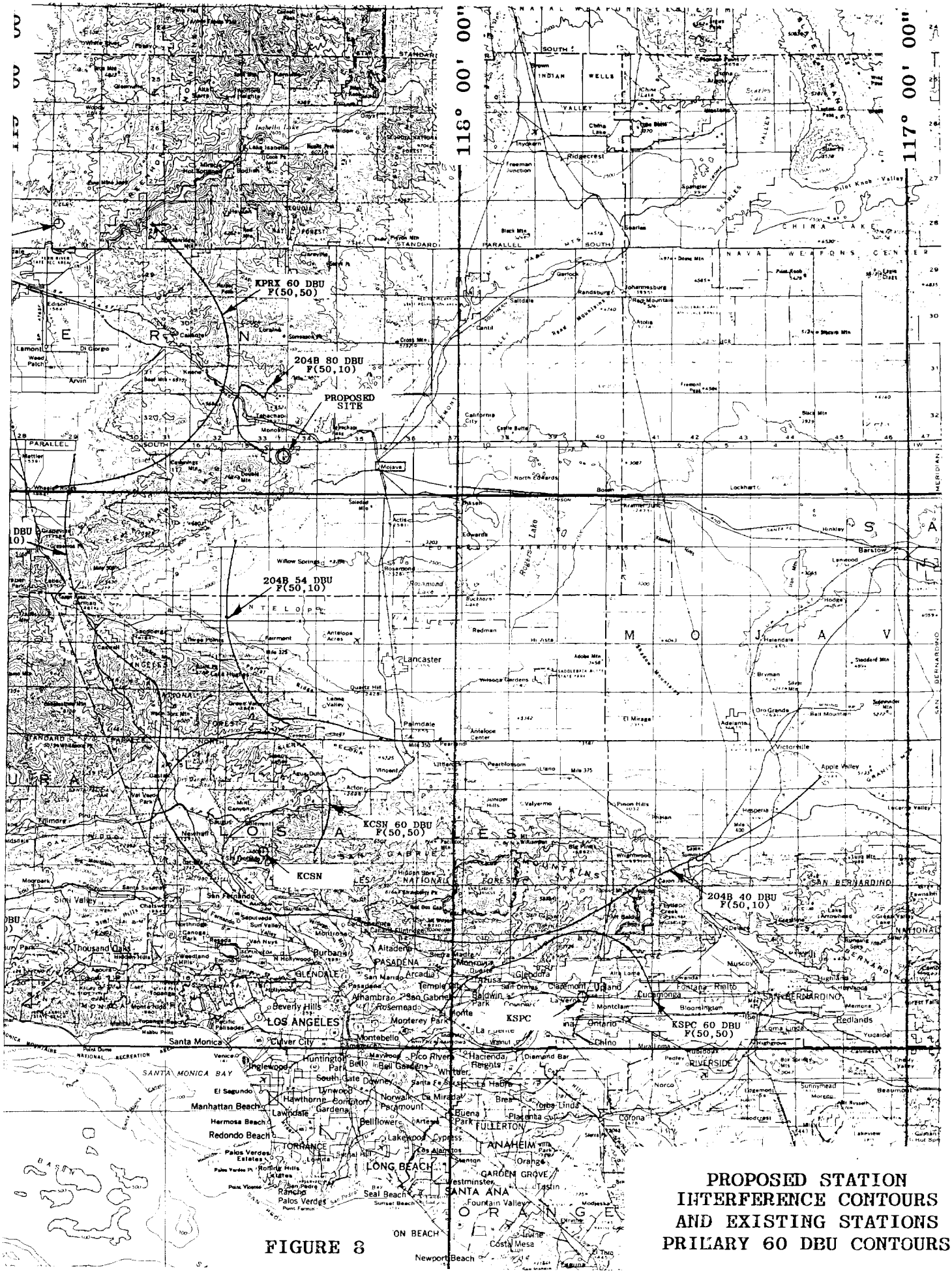
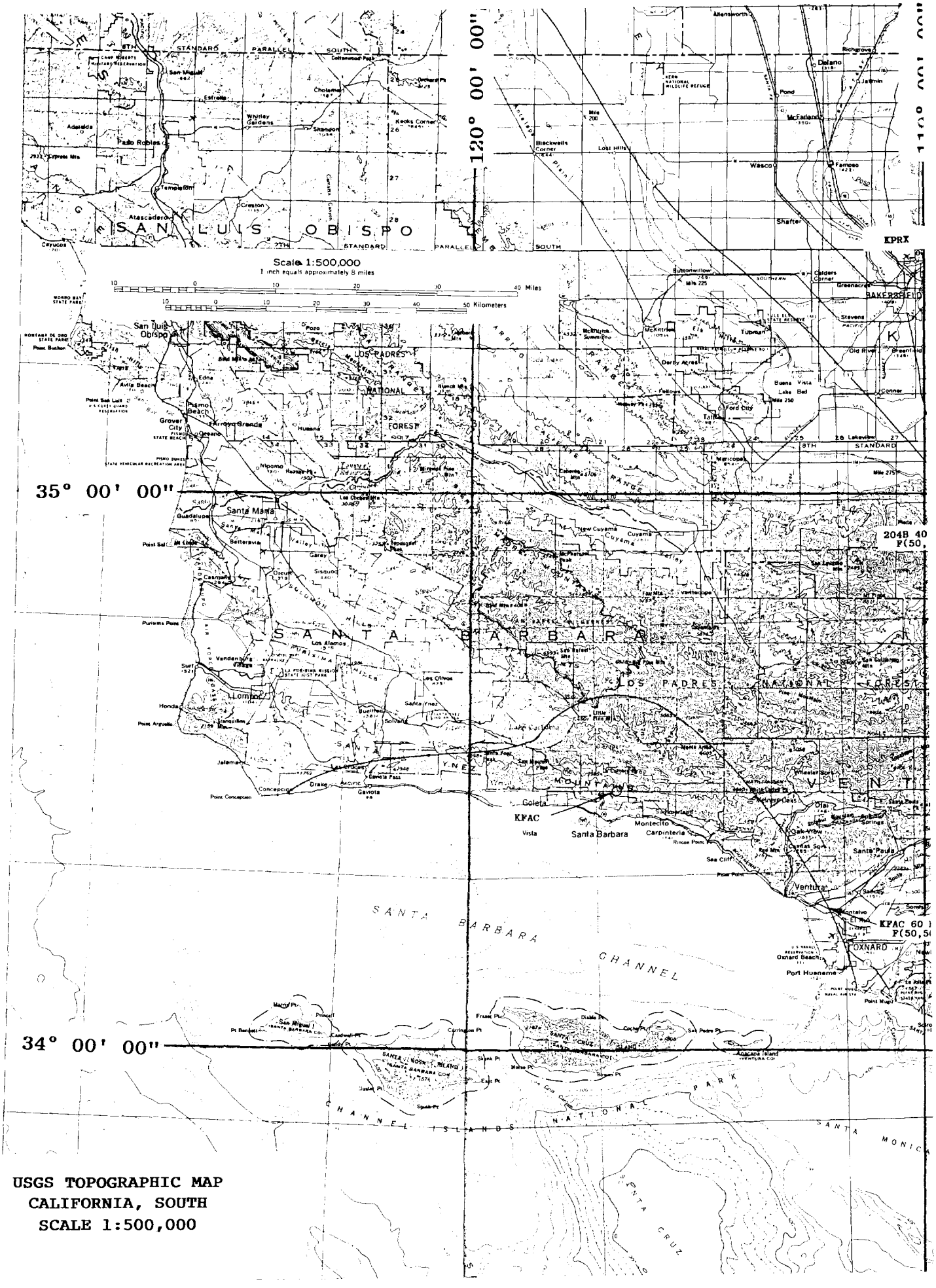


FIGURE 8

PROPOSED STATION
INTERFERENCE CONTOURS
AND EXISTING STATIONS
PRILARY 60 DBU CONTOURS



USGS TOPOGRAPHIC MAP
CALIFORNIA, SOUTH
SCALE 1:500,000

APPENDIX

ANTENNA MANUFACTURER'S DATA

DECEMBER 3, 1990

CIRCULAR POLARIZED DIRECTIONAL ANTENNA SYSTEM PROPOSED FOR THE NEW STATION LOCATED IN MOJAVE, CA

Electronics Research Inc. proposes to provide a custom fabricated directional antenna system that is specially designed to meet the F.C.C. requirements and the general needs of the new station.

The antenna is the E.R.I. LP-4E-DA-SP type configuration. The proposed circular polarized system consists of 4 half-wavelength spaced bays using one driven circular polarized radiating element, 2 horizontal parasitic elements and 2 vertical parasitic elements per bay. The antenna will be tested on a 8 5/8" o.d. pole, which is the structure recommended to support the proposed array. All tests will be performed on a frequency of 88.7 megahertz which is the center of the FM broadcast channel assigned to the new station.

Pattern measurements will be made on a fifty-acre antenna pattern range which is owned and operated by Electronics Research, Inc. The tests will be performed under the direction of Thomas B. Silliman, president of Electronics Research, Inc. Mr. Silliman has both the Bachelor of Electrical Engineering and the Master of Electrical Engineering degrees from Cornell University, and is also a registered professional engineer in the states of Indiana, Maryland and Minnesota.

DESCRIPTION OF THE TEST PROCEDURE

The test antenna consists of two bay levels of the circular polarized system with the associated vertical and horizontal parasitic elements. The elements and brackets that will be used in this test are electrically equivalent to those that will be supplied with the proposed antenna. Sections of 1 5/8 inch o.d. rigid coaxial line will be used to feed the test antenna, and sections of 1 5/8 inch o.d. rigid outer conductor only will be attached above the test antenna. All these lines were over one half-wave in length. The lines will be properly grounded during all the test. The power distribution and phase relationship to the driven elements will be fixed in order to achieve the directional radiation pattern for both horizontal and vertical polarization components.

DECEMBER 3, 1990

CIRCULAR POLARIZED DIRECTIONAL ANTENNA SYSTEM
PROPOSED FOR THE NEW STATION
LOCATED IN MOJAVE, CA

(Continued)

This proof-of-performance will be accomplished using a supporting structure of identical dimensions and configuration as the proposed 8 5/8" o.d. pole, including all braces, ladders, conduits, coaxial lines and other appurtenances that are included in the actual aperture at which the proposed antenna will be installed. The 8 5/8" o.d. pole will be erected vertically on a turntable mounted on a non-metalic building with the antenna centered vertically on the structure, making the center of radiation of the test approximately 25 feet above ground. The turntable is equipped with a motor drive and azimuth indicating mechanism, resolution of this azimuth measuring system is one-tenth of a degree.

The antenna under test will be operated in the transmitting mode and fed from a Wavetek Model 3000 signal generator. The frequency of the signal source will be set at 88.7Mhz and will be constantly monitored by a Heathkit Model IM4110 frequency counter.

A broad-band horizontal and vertical dipole system, located approximately 628 feet from the test antenna, and mounted at the same height above terrain as the center of the antenna under test, will be used to receive the emitted test signals. The signals received by the dipole used to receive the emitted test signals. The signals recieved by the dipole system will be fed to test building by way of two buried Heliax cables to an Anritsu Model ML521B measuring receiver. This data will be interfaced to a Hewlett-Packard Model 9872C plotter by means of a Hewlett-Packard Model 86 computer system. Relative field strength will be plotted as a function of azimuth.

The measurements will be performed by rotating the test antenna in a counter-clockwise direction and plotting the received signal on polar co-ordinated graph paper in a clockwise direction. Both horizontal and vertical components will be recorded separately.

CONCLUSIONS

The proposed circular polarized system consists of 4 half-wavelength spaced bays using one driven circular polarized

DECEMBER 3, 1990

CIRCULAR POLARIZED DIRECTIONAL ANTENNA SYSTEM
PROPOSED FOR THE NEW STATION
LOCATED IN MOJAVE, CA

(Continued)

radiating element, 2 horizontal parasitic elements and 2 vertical parasitic elements per bay. The power distribution and phase relationship between the driven elements will be fixed when the antenna is manufactured. Proper maintenance of the elements in good condition should be all that is required to maintain the pattern in adjustment.

The LP-4E-DA-SP array is to be orientated on the 8 5/8" o.d. pole at a bearing of North 37.5 degrees East. Blue prints provided with the antenna will show the proper antenna orientation alignment. The antenna alignment procedure should be directed by a licensed surveyor as prescribed by the FCC.

Deicers are not supplied and are not available. The use of radomes is recommended if icing conditions will exist at the proposed site.

The proposed horizontal plane relative field pattern, for both the horizontal and vertical polarization components, is shown on Figure #1 attached. The attached horizontal plane relative field pattern shown on Figure #1 represents the maximum achievable radiation at any azimuth. The actual pattern when measured will not exceed that of Figure #1 at any azimuth and will have an R.M.S. that is equal to, or no less than 85% of the R.M.S. of the pattern shown on Figure #1. A calculated vertical plane relative field pattern is shown on Figure #3 attached.

1. The power in the maximum will reach 29 kilowatts (14.624 dbk).

2. The RMS of the vertically polarized horizontal plane component does not exceed the RMS of the horizontally polarized horizontal plane component. In addition the level of the vertically polarized component does not exceed the level of the horizontally polarized component at any azimuth as measured in the horizontal plane.

3. Neither the horizontally polarized component nor the vertically polarized component will exceed a rate of change of 2 DB per any ten degree change in azimuth as measured in the horizontal plane.

DECEMBER 3, 1990

CIRCULAR POLARIZED DIRECTIONAL ANTENNA SYSTEM
PROPOSED FOR THE NEW STATION
LOCATED IN MOJAVE, CA

(Continued)

The approximate weight of the antenna minus the mounting structure is 397 lbs. The approximate windload of the antenna minus the mounting structure is 758 lbs based on 50/33 PSF(112 MPH wind) with no ice build up. The minimum length of the structure required to support the antenna is 35 feet. The directional antenna should not be mounted on the top of an antenna tower which includes a top-mounted platform larger than the cross-sectional area of the tower in the horizontal plane. No other obstruction other than those that are specified by the blue prints supplied with the antenna are to be mounted at the same tower level as the directional antenna. No obstruction of any type is to be with in 75ft horizontally of the antenna system. The vertical distance to the nearest obstruction should be a minimum of 10ft from the directional antenna.

The calculated maximum power gain of the horizontal component is 4 (6.03db).

The calculated maximum power gain of the vertically polarized component is 4 (6.03db).

The calculated input power to the antenna input flange is 7.243 kilowatts (8.599 dbk) to provide a maximum horizontal ERP of 29 kilowatts (14.624 dbk) and a maximum vertical ERP of 29 kilowatts (14.624 dbk). The input flange to the antenna is 1 5/8 inch male.

Tom Schaaf PE

ELECTRONICS RESEACH, INC.
108 Market Street
Newburgh, In 47630

DECEMBER 3 1990
HORIZONTAL PLANE RELATIVE FIELD & DBK LIST
FOR THE NEW STATION 88.7MHz

AZIMUTH	H POL RELATIVE FIELD	H POL DBK	H POL POWER KW	V POL RELATIVE FIELD	V POL DBK	V POL POWER KW	AZIMUTH	H POL RELATIVE FIELD	H POL DBK	H POL POWER KW	V POL RELATIVE FIELD	V POL DBK	V POL POWER KW
0.0	.824	12.94	19.67	.824	12.94	19.67	180.0	.258	2.85	1.93	.258	2.85	1.93
5.0	.866	13.38	21.76	.866	13.38	21.76	185.0	.270	3.24	2.11	.270	3.24	2.11
10.0	.903	13.74	23.65	.903	13.74	23.65	190.0	.281	3.59	2.28	.281	3.59	2.28
15.0	.934	14.03	25.29	.934	14.03	25.29	195.0	.290	3.87	2.44	.290	3.87	2.44
20.0	.959	14.26	26.66	.959	14.26	26.66	200.0	.298	4.10	2.57	.298	4.10	2.57
25.0	.978	14.43	27.74	.978	14.43	27.74	205.0	.303	4.26	2.67	.303	4.26	2.67
30.0	.991	14.55	28.49	.991	14.55	28.49	210.0	.307	4.38	2.74	.307	4.38	2.74
35.0	.999	14.61	28.91	.999	14.61	28.91	215.0	.310	4.44	2.78	.310	4.44	2.78
40.0	.999	14.61	28.91	.999	14.61	28.91	220.0	.310	4.44	2.78	.310	4.44	2.78
45.0	.991	14.55	28.49	.991	14.55	28.49	225.0	.307	4.38	2.74	.307	4.38	2.74
50.0	.978	14.43	27.74	.978	14.43	27.74	230.0	.303	4.26	2.67	.303	4.26	2.67
55.0	.959	14.26	26.66	.959	14.26	26.66	235.0	.298	4.10	2.57	.298	4.10	2.57
60.0	.934	14.03	25.29	.934	14.03	25.29	240.0	.290	3.87	2.44	.290	3.87	2.44
65.0	.903	13.74	23.65	.903	13.74	23.65	245.0	.281	3.59	2.28	.281	3.59	2.28
70.0	.866	13.38	21.76	.866	13.38	21.76	250.0	.270	3.24	2.11	.270	3.24	2.11
75.0	.824	12.94	19.67	.824	12.94	19.67	255.0	.258	2.85	1.93	.258	2.85	1.93
80.0	.775	12.41	17.43	.775	12.41	17.43	260.0	.247	2.49	1.78	.247	2.49	1.78
85.0	.721	11.78	15.07	.721	11.78	15.07	265.0	.239	2.19	1.66	.239	2.19	1.66
90.0	.661	11.02	12.65	.661	11.02	12.65	270.0	.232	1.95	1.57	.232	1.95	1.57
95.0	.595	10.11	10.26	.595	10.11	10.26	275.0	.227	1.76	1.50	.227	1.76	1.50
100.0	.532	9.14	8.20	.532	9.14	8.20	280.0	.224	1.64	1.46	.224	1.64	1.46
105.0	.474	8.14	6.52	.474	8.14	6.52	285.0	.223	1.59	1.44	.223	1.59	1.44
110.0	.423	7.15	5.19	.423	7.15	5.19	290.0	.227	1.76	1.50	.227	1.76	1.50
115.0	.377	6.16	4.13	.377	6.16	4.13	295.0	.238	2.14	1.64	.238	2.14	1.64
120.0	.338	5.19	3.31	.338	5.19	3.31	300.0	.254	2.72	1.87	.254	2.72	1.87
125.0	.304	4.28	2.68	.304	4.28	2.68	305.0	.276	3.44	2.21	.276	3.44	2.21
130.0	.276	3.44	2.21	.276	3.44	2.21	310.0	.304	4.28	2.68	.304	4.28	2.68
135.0	.254	2.72	1.87	.254	2.72	1.87	315.0	.338	5.19	3.31	.338	5.19	3.31
140.0	.238	2.14	1.64	.238	2.14	1.64	320.0	.377	6.16	4.13	.377	6.16	4.13
145.0	.227	1.76	1.50	.227	1.76	1.50	325.0	.423	7.15	5.19	.423	7.15	5.19
150.0	.223	1.59	1.44	.223	1.59	1.44	330.0	.474	8.14	6.52	.474	8.14	6.52
155.0	.224	1.64	1.46	.224	1.64	1.46	335.0	.532	9.14	8.20	.532	9.14	8.20
160.0	.227	1.76	1.50	.227	1.76	1.50	340.0	.595	10.11	10.26	.595	10.11	10.26
165.0	.232	1.95	1.57	.232	1.95	1.57	345.0	.661	11.02	12.65	.661	11.02	12.65
170.0	.239	2.19	1.66	.239	2.19	1.66	350.0	.721	11.78	15.07	.721	11.78	15.07
175.0	.247	2.49	1.78	.247	2.49	1.78	355.0	.775	12.41	17.43	.775	12.41	17.43

CITY OF LICENSE: MOJAVE, CA
MOUNTING STRUCTURE: 8 5/8" O.D. POLE
ANTENNA TYPE: LP-4E-DA-SP NUMBER OF BAYS: 4
HORIZONTAL MAXIMUM RELATIVE FIELD= 1 AZIMUTH 37.5
HORIZONTAL MINIMUM RELATIVE FIELD= .223 AZIMUTH 150
VERTICAL MAXIMUM RELATIVE FIELD= 1 AZIMUTH 37.5
VERTICAL MIMIMUM RELATIVE FIELD= .223 AZIMUTH 150
HORIZONTAL R.M.S.=.55686 VERTICAL R.M.S.=.55686
MAXIMUM HORIZONTAL E.R.P.= 29.0000KW MAXIMUM VERTICAL E.R.P.= 29.0000KW
HORIZONTAL POWER INPUT= 3.6212KW VERTICAL POWER INPUT= 3.6212KW
TOTAL POWER INPUT= 7.2425KW
MAXIMUM HORIZONTAL POWER GAIN OF COMPLETE ARRAY= 4 (6.03 db)
MAXIMUM VERTICAL POWER GAIN OF COMPLETE ARRAY= 4 (6.03 db)
ANTENNA ORIENTATION: NORTH 37.5 DEGREES EAST